

**REMARKS**

Upon entry of this Amendment, Claims 1, 3, 5-7, 9, 11 and 12 will be all the claims pending in the application.

Claim 1 has been amended, and Claims 2 and 4 are canceled. The subject matter previously recited in Claims 2 and 4 have been incorporated into Claim 1. Claim 1 has been amended to recite, *inter alia*, Formula (1-A) instead of Formula (1) for simplification purposes. Further, Claim 1 has been amended to add  $R_{11}'$ ,  $R_{12}'$ ,  $R_{13}'$ , and "the polymer compound". Support for the amendments can be found, for example, at page 2, lines 30-31, and page 3, line 34 to page 14, line 14, of the present specification.

Similarly, Claims 7 and 12 have been amended to recite, *inter alia*, Formula (1-A).

Claims 8 and 10 are canceled.

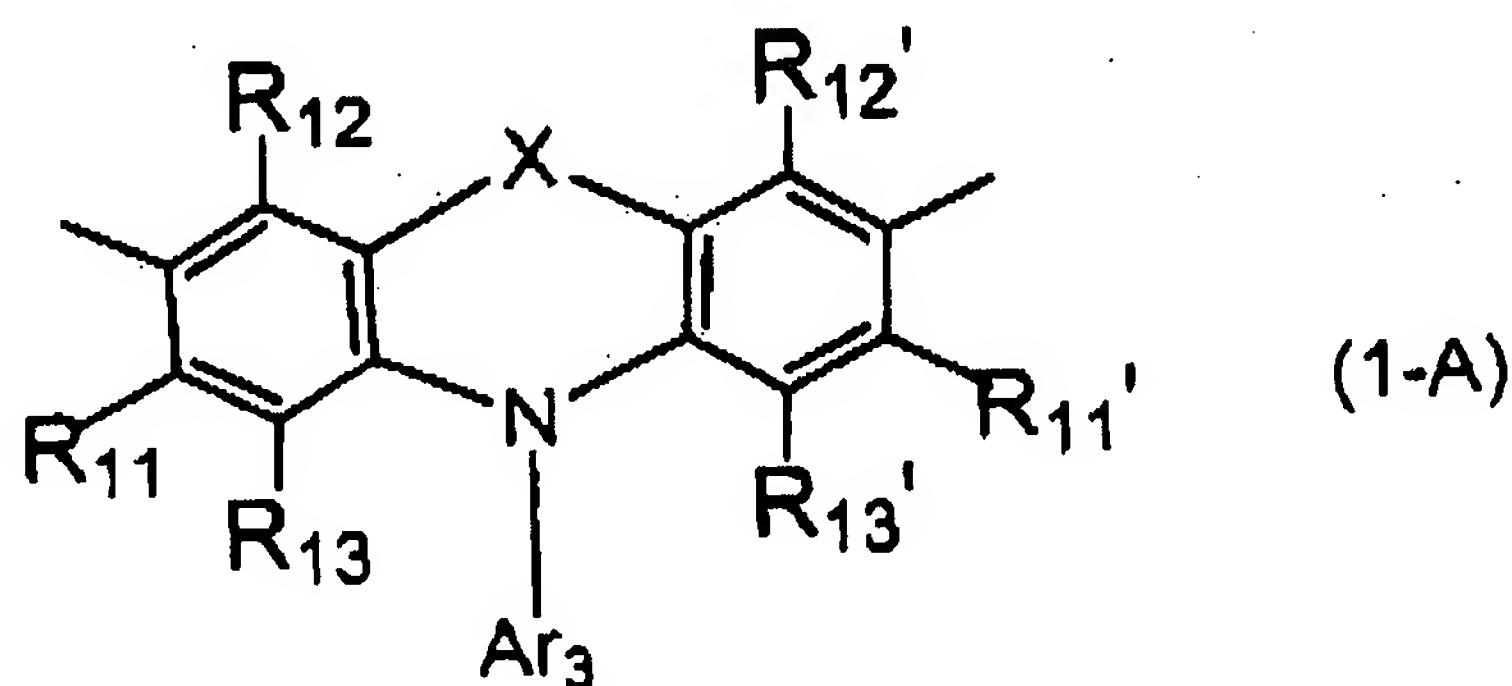
No new matter is added. Accordingly, Applicants respectfully request entry and consideration of the Amendment.

***Response to Rejections under 35 U.S.C. § 103***

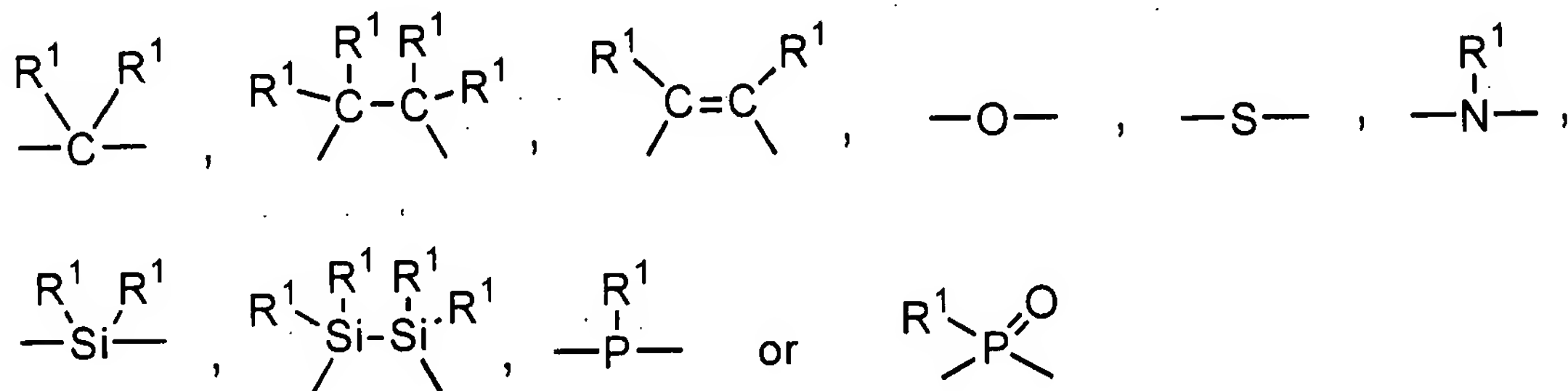
Claims 1, 3-7, and 9-12 have been rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Marrocco, III et al. (U.S. Patent Application Publication No. 2002/0028347) (hereinafter "Marrocco").

Without admitting that this rejection is correct, Claim 1 has been amended to incorporate the features of the invention previously recited in Claims 2 and 4.

Claim 1, as amended, recites a complex composition containing a polymer compound and a metal complex showing light-emission from triplet excited state, the polymer compound comprising the repeating unit represented by formula (1-A),

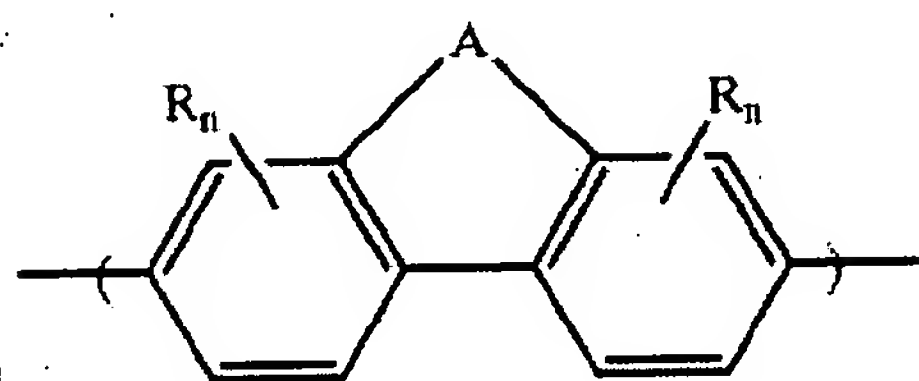


wherein,  $R_{11}$ ,  $R_{12}$ ,  $R_{13}$ ,  $R_{11}'$ ,  $R_{12}'$ , and  $R_{13}'$  each independently represent a hydrogen atom, halogen atom, alkyl group, alkoxy group, alkylthio group, alkylamino group, aryl group, aryloxy group, arylthio group, arylamino group, arylalkyl group, arylalkoxy group, arylalkylthio group, arylalkylamino group, acyl group, acyloxy group, amide group, imino group, substituted silyl group, substituted silyloxy group, substituted silylthio group, substituted silylamino group, monovalent heterocyclic group, arylalkenyl group, arylethynyl group, or cyano group;  $Ar_3$  represents an aromatic hydrocarbon group or a heterocyclic group, and said  $Ar_3$  has on the ring a group selected from alkyl group, alkoxy group, alkylthio group, alkylsilyl group, alkylamino group, aryl group, aryloxy group, arylalkyl group, arylalkoxy group, arylalkenyl group, arylalkynyl group, arylamino group, monovalent heterocyclic group, and cyano group;  $X$  represents a single bond or a connecting group, wherein the connecting group is a group represented by the below formulas:



wherein,  $R_1$  each independently represents a hydrogen atom, halogen atom, alkyl group, alkoxy group, alkylthio group, alkylamino group, aryl group, aryloxy group, arylthio group, arylamino group, arylalkyl group, arylalkoxy group, arylalkylthio group, arylalkylamino group, acyloxy group, amide group, arylalkenyl group, arylalkynyl group, monovalent heterocyclic group, or cyano group.

Accordingly, this rejection has been rendered moot because Claim 2 was not included in this rejection. Further, Applicants note that Marrocco discloses the following polymer (II) (*see* paragraph [0012]):



(II)

However, the structure of this polymer (II) is distinct from the structure of the presently claimed polymer in Claim 1. For example, the positions of the free bonds on the benzene rings of polymer (II) in Marrocco are different from those of the presently claimed polymer. In addition, as acknowledged by the Examiner on page 3 of the Office Action, Marrocco does not disclose that  $Ar_3$  is an aromatic group with the recited substituents. Withdrawal of the rejection is respectfully requested.

Additionally, Claims 2 and 8 have been rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Marrocco in view of JP 10-226785 (hereinafter "JP '785").

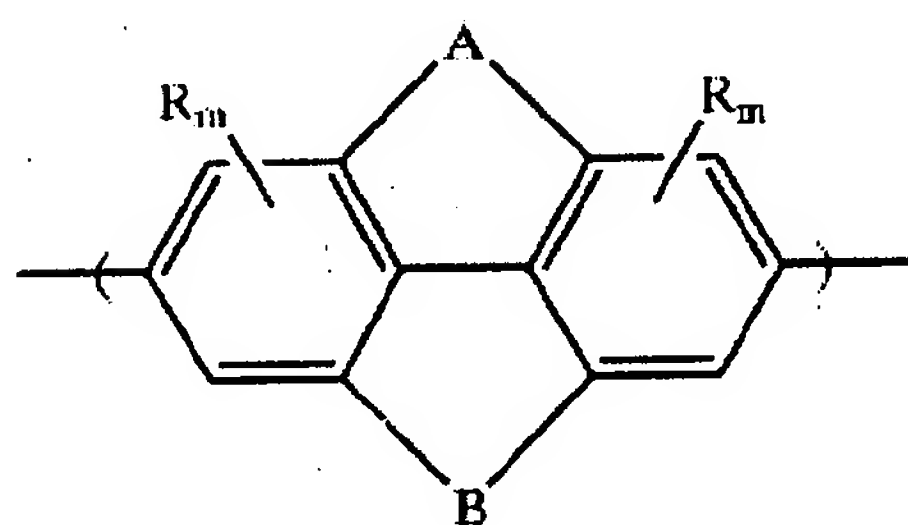
Applicants respectfully traverse the rejection because one of ordinary skill in the art would not have combined Marrocco with JP '785, and even if they are combined, one of

ordinary skill in the art could not have arrived at the presently claimed invention with a reasonable expectation of success.

The Examiner asserts that it would have been obvious to one of ordinary skill in the art to modify the core of the polymer of Marrocco into the core of the compound of JP '785. On pages 4-5 of the Office Action, the Examiner further asserts that the motivation to modify is provided as follows:

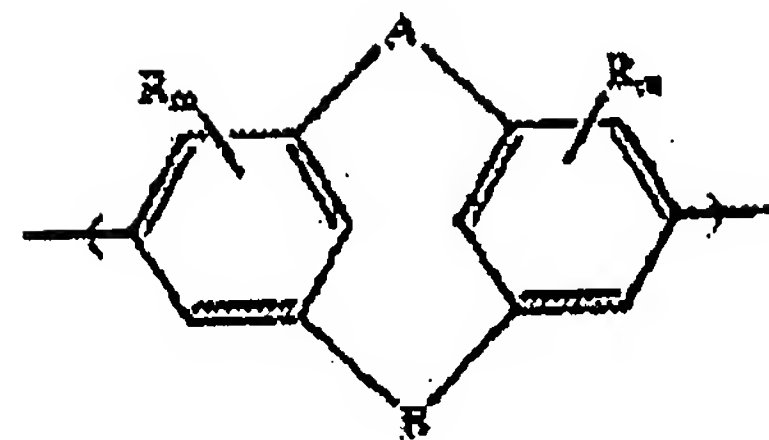
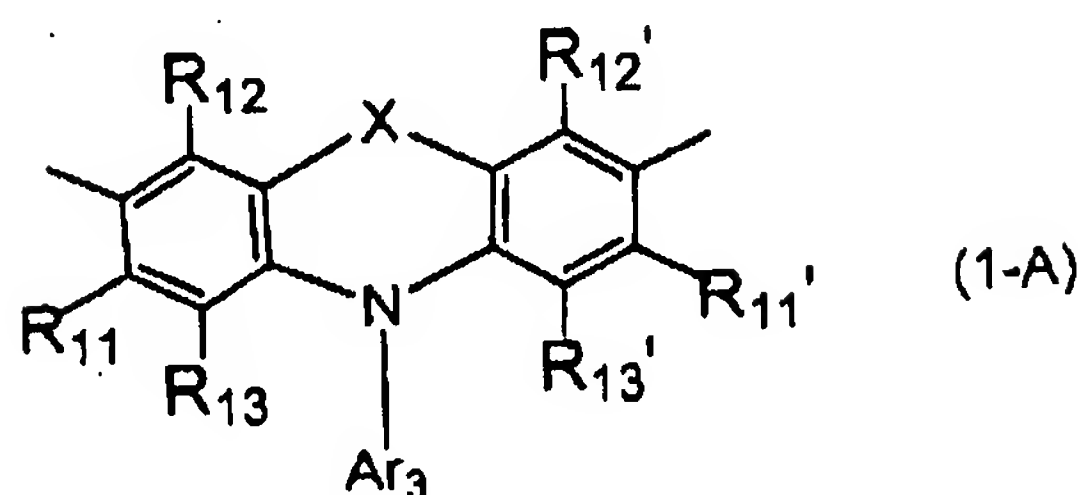
The motivation is provided by the fact that Marrocco, III et al. allows a wide variety of cores for the polymer matrix ([0012]), in addition to the fact that the only difference between the core of Marrocco, III et al. and that of [JP '785] is a single bond between the trivalent aromatic (phenyl groups). Further motivation is provided by the fact that both materials as disclosed by Marrocco, III et al. and that of [JP '785] is used as charge-transporting material in the light-emitting layer of an organic EL device, rendering the [modification] predictable with a reasonable expectation of success.

Applicants respectfully disagree with the Examiner's assertion. Marrocco discloses the following polymer (III) (*see* paragraph [0012]):



(III)

The Examiner asserts that the difference between the polymer of Marrocco and the presently claimed polymer in Claim 1 is a single bond. However, as shown below, the presently claimed polymer in Claim 1, as amended, is distinct from the polymer of Marrocco (modified by removing a single bond):



(modified III)

Thus, contrary to the Examiner's assertion, there is no reason for one of ordinary skill in the art to modify the core of the polymer Marrocco into the core of the compound of JP '785.

Further, JP '785 does not disclose, teach or suggest a polymer. JP '785 merely discloses a small molecule (*see* paragraph [0010]). JP '785 does not disclose, teach or suggest a composition comprising a metal complex showing light-emission from a triplet excited state and a small molecule, let alone a polymer. One of ordinary skill in the art knows and would have known that a small molecule and a polymer have different characteristics.

Thus, contrary to the Examiner's assertion, one of ordinary skill in the art would not have combined Marrocco (which discloses a polymer) with JP '785 (which discloses a small molecule), and even if they are combined, one of ordinary skill in the art could not have arrived at the presently claimed invention with a reasonable expectation of success.

Accordingly, Applicants respectfully request the withdrawal of the rejections under 35 U.S.C. § 103.

### ***Conclusion***

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the

AMENDMENT UNDER 37 C.F.R. § 1.111  
Appln. No.: 10/550,059

Attorney Docket No.: Q90241

Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,


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**23373**

CUSTOMER NUMBER

Date: August 1, 2011

  
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